

SYSTEMS ENGINEERING

Arquitecturas Empresariales

## **Workshop 5**

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## 1 Introduction

The workshop consists of creating a small web application using the Spark java micro-framework (<http://sparkjava.com/>). Once we have this application we will proceed to build a container for docker for the application and we will deploy and configure them on our local machine. Then we will create a repository on DockerHub and upload the image to the repository. Finally, we will create a virtual machine on AWS, install Docker, and deploy the container we just created.

## 2 AWS Educate

AWS Educate is an Amazon global initiative that aims to provide students with comprehensive resources to develop cloud skills. It is a no-cost program that provides access to AWS content, training, itineraries, and services.



Image1: AWS

## 3 Docker

Docker makes development efficient and predictable Docker eliminates mundane and repetitive configuration tasks and is used throughout the development lifecycle for fast, easy, and portable application development - desktop and cloud. Docker's comprehensive platform includes UI, CLI, API, and security that are designed to work

together across the entire application delivery lifecycle.

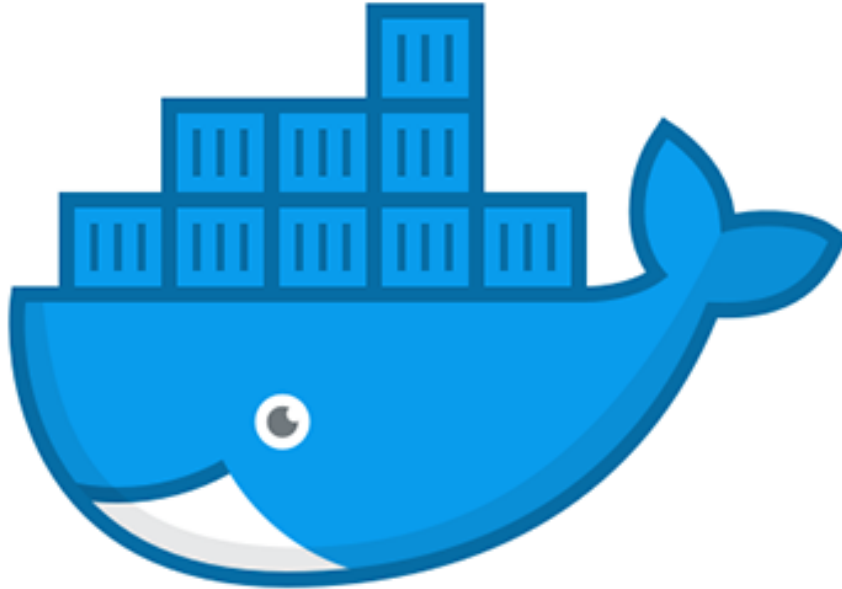


Image2: Docker

## 4 Workshop

The respective AWS learning was carried out to be able with the container created in Docker, deploy it in AWS in the virtual machine, in order to have a basis to start the task which consists of an implementation of an architecture which consists of a load balancer where the RoundRobin method is used. This load balancer is in charge of making the respective requests to the LogServices, which are in charge of making the connection with the databases mounted on MongoDB, which stores all incoming messages. In the program architecture there are a total of five containers, one for the RoundRobin, three for the LogService and one for the databases in Mongo.

## 5 Answer

When executing our code, the files with the data it contains are analyzed and pages.

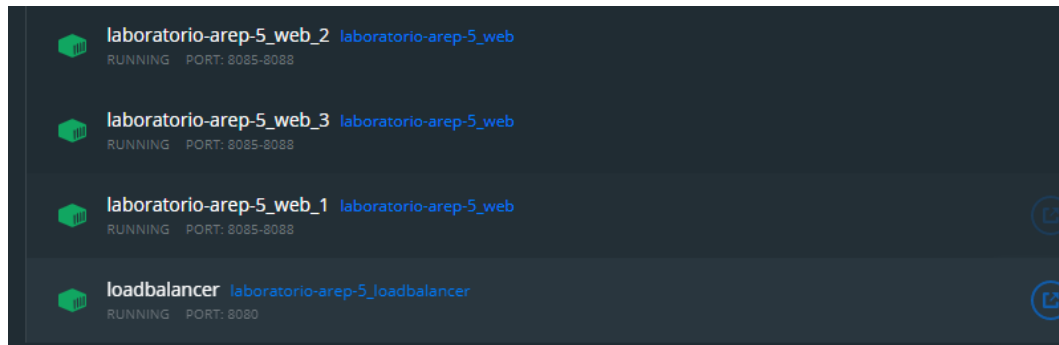


Image3:Executed

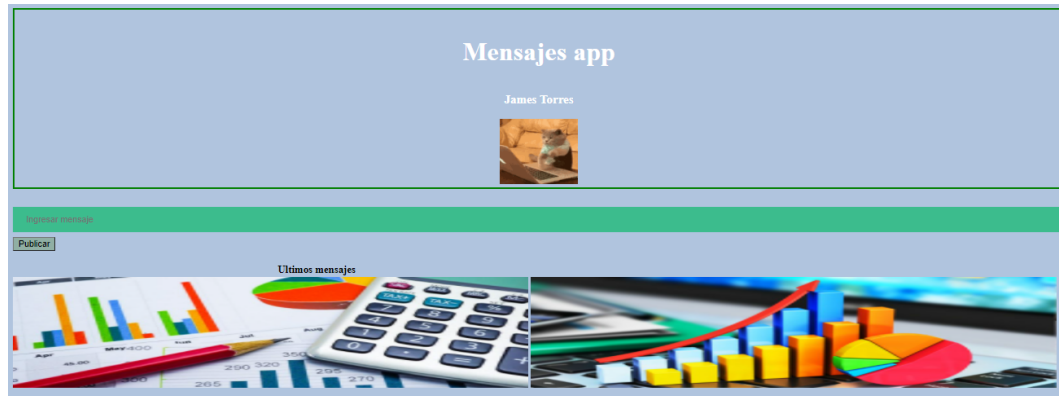


Image4:Executed

## 6 References

<https://aws.amazon.com/es/education/awseducate/14-and-older/:text=AWS/>  
<https://www.docker.com/>  
<https://cloud.mongodb.com/v2/604da6ea0f1eb66b666e2963security/database/users/>  
<https://docs.docker.com/docker-for-windows/docker-toolbox/>